

VERIFICATION OF TRANSLATION

I, Jeonghee SHIM, a patent attorney, having an address on 828-8, Yoksam-dong, Kangnam-ku, Seoul, Republic of Korea state that attached document is a true and complete translation of the Korean Patent Application No. 10-2003-0004453 to the best of my knowledge and belief.

Dated/ January 26, 2005

Jeonghee SHIM
Patent Attorney



(translation)

PATENT APPLICATION

DATE : January 23, 2003

TITLE OF INVENTION: NETWORKED SILICA FOR ENHANCING TENSILE
STRENGTH OF RUBBER COMPOUND DRASTICALLY,
AND THE PROCESS THEREOF.

APPLICANT

Name: SEO, GON

Applicant Code : 4-1998-016257-4

ATTORNEY :

Name : Yongkyl SHIN

Attorney Code : 9-1998-000266-2

INVENTOR :

Name: SEO, GON

Address : (abbreviation)

REQUEST FOR EXAMINATION : request

We submit petitions of patent application and request for examination under the
article 42 and 60 of Korean Patent Law.

Attorney :

Yongkyl SHIN (Seal)

OFFICIAL FEE :

Basic filing fee : 29,000WON

Additional fee : 20,000WON

Official fee for Priority claiming: 0WON

Official fee for Request for Examination : 269,000WON

TOTAL 318,000WON

Reason for reduction and exemption : individual

(70% reduction and exemption)

Official fee after reduction and exemption : 95,400 WON

(translation)

DECLARATION OF CHANGE OF APPLICANT

HONORABLE COMMISSIONER OF
PATENT AND TRADEMARKS

DATE : January 13, 2004

ASSIGNOR:

Name : SEO, GON

Applicant Code : 4-1998-016257-4

ASSIGNEE:

Name: REPUBLIC OF KOREA (CHONNAM NATIONAL UNIVERSITY)

Applicant Code: 2-1999-901983-7

ATTORNEY :

Name : Yongkyl SHIN

Attorney Code : 9-1998-000266-2

DETAILS FOR THIS MATTER :

Application No.: 10-2003-0004453

Application date: January 23, 2003

Date of request for examination: January 23, 2003

Title of invention: NETWORKED SILICA FOR ENHANCING TENSILE
STRENGTH OF RUBBER COMPOUND
DRASTICALLY, AND THE PROCESS THEREOF

CAUSE OF TRANSFER: Assignment

INTENT: We submit a Declaration of Change under the Article 38, Paragraph 4 of
Patent Law.

Attorney

Yongkyl SHIN(seal)

FEE: 13,000WON

ATTACHED DOCUMENT: 1. a Certificate of Seal Impression
2. an Assignment (including the translation thereof)
3. a Power of Attorney

【Abstract】

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The present invention relates to networked silica produced by treating silanol groups with organic silane and combining silica particles with one another and the process thereof. When networked silica manufactured by the present invention is added to rubber compounds, the tensile strength and the elongation at break highly increase while the modulus of rubber compounds slightly increase. Networked silica has excellent dispersion property so that the reinforce effect shows highly in spite of a little addition. Moreover, it does not absorb additives such as curative accelerators to enhance the economic efficiency of the rubber compounds.

【Representative drawing】

Fig 1.